

# SOFT SERVE MACHINES

## Operating Instructions



**D600**



**D700**

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## D600 | D700

### I INTRODUCTION

Thank you for choosing the Donper USA D600/D700 Soft Serve Machine. This manual provides the product specifications and our recommendations for effective and safe operation of your machine, ensuring a long and productive service life.

This manual covers installation, operation, cleaning, and routine maintenance. Information in this manual may be subject to change. Please visit [www.donperusa.com](http://www.donperusa.com) or call 1-844-366-7371 for the latest updates and support.

#### ATTENTION

- ★ Before using this machine, please read the product specifications carefully while becoming familiar with this machine.
- ★ The sugar content of your mix must be at least 13%. Lower concentrations can damage internal components including the beater and gear motor.
- ★ Clean and sanitize the machine after every use to ensure food safety for all customers.
- ★ Never run the machine dry — always ensure product mix is in the cylinder before starting.
- ★ Most importantly, enjoy making great frozen treats for your customers. That is what it is all about!



This machine manual is intended to instruct users on the installation, operation, cleaning, and routine maintenance procedures. Information contained in this manual may be subject to change. Please check online or contact **Donper USA Technical Support at 844-366-7371** for continued updates, training, and detailed information about your Donper USA machine. For technical support, parts, and detailed training resources, contact via email [sales@donperusa.com](mailto:sales@donperusa.com), or visit [www.donperusa.com](http://www.donperusa.com).

## II SAFETY PRECAUTIONS

All safety regulations, local codes, and instructions that appear in this manual or on the equipment must be followed to ensure personal safety and prevent damage to the machine. Operating this equipment in a manner not specified by the manufacturer will void the warranty.

### GUIDE TO ICONS IN THIS DOCUMENT



**WARNING:** Risk of injury to the operator or damage to the machine if instructions are not followed.



**CAUTION:** Informs the operator of a task that may lead to harm if instructions are not followed.



**IMPORTANT:** Represents an extremely important step or note the user must be aware of.



**NOTE:** Non-hazardous, informational text.



**WARNING:** Always turn off and unplug the machine before performing any maintenance or cleaning involving internal components.

—  
Ensure the machine is properly grounded before use. If the power cord is damaged, it must be replaced by a qualified technician.

—  
Do not insert tools, sticks, or foreign objects into the machine while it is running. Fill with potable (drinking-quality) water only. Do not use untreated or non-potable water in the mix.

## III UNPACKING & SETUP

### UNPALLETIZE MACHINE

When your Donper USA D600 or D700 is delivered, it will arrive in a crate. The first thing you will need to do is place the crate on a flat surface.

### WARNING



Unpalletizing requires heavy lifting. Use two or more personnel to remove the machine from its packaging and position it in its final location. Failure to do so may result in serious injury or equipment damage.

### UNPACK & INSPECT PARTS:

1. Open the shipping box by unfolding all tabs from their closed to open position. Use a flat-head screwdriver and hammer if needed. Use a screwdriver to open and remove the wooden crate panels.
2. Remove all plastic wrapping from around the machine.
3. Carefully remove both side panels using a Phillips-head screwdriver. Take care not to scratch or dent the panels.
4. Locate the two stabilizing bolts at the bottom of the machine that secure it to the shipping pallet. Remove both bolts using a #12 wrench and ratchet.
5. Reattach both side panels.
6. Prepare the final installation area (see Installation Requirements below).
7. Move the machine to its final location.

### INSTALLATION REQUIREMENTS:

- ★ Place the machine on a stable, level surface capable of supporting its full operating weight.
- ★ Maintain at least 12" (30 cm) of clearance on all sides of the machine for proper ventilation.
- ★ Keep the machine away from direct sunlight and heat-generating appliances.
- ★ Plug into a grounded 115V NEMA 5-15 outlet. Do not use extension cords or multi-plug adapters.



**CAUTION:** This machine is designed to operate in ambient temperatures of 60–75°F (15–24°C). Operating in higher ambient temperatures will reduce performance and freeze-down speed.

## IV PRIOR TO OPERATING BEFORE YOU START — IMPORTANT RULES:

### ATTENTION

- ★ Never run the machine without mix in the cylinder. Running dry will damage the machine.
- ★ Sugar content of the mix must be greater than 13%. Lower concentrations will damage the beater and gear motor.
- ★ When the liquid level in the cylinder drops below the midpoint of the beater, refill the cylinder. Turn off the machine before refilling.
- ★ When switching the machine off overnight, some liquid remains in the cylinder. A crust of ice may form at the surface. Remove any ice crust before restarting the machine — failure to do so can damage internal parts.
- ★ This machine is intended for use by trained adults only. Keep unsupervised children away from the appliance at all times.
- ★ Keep the machine out of direct sunlight or excessive heat. Do not place the machine near other equipment that produces excessive heat.

### WARNING:

- NEVER freeze plain water. Always add sugar or mix before freezing. Freezing water alone will damage the machine.
- Make sure the machine is properly grounded before use.
- If the power cord or any wiring is damaged, contact a qualified technician for replacement. Do not attempt to repair it yourself.
- Do not insert stir sticks, utensils, or any foreign objects into the machine while it is running.
- Before performing any maintenance or cleaning, turn off and unplug the machine.



## Work Condition Specifications

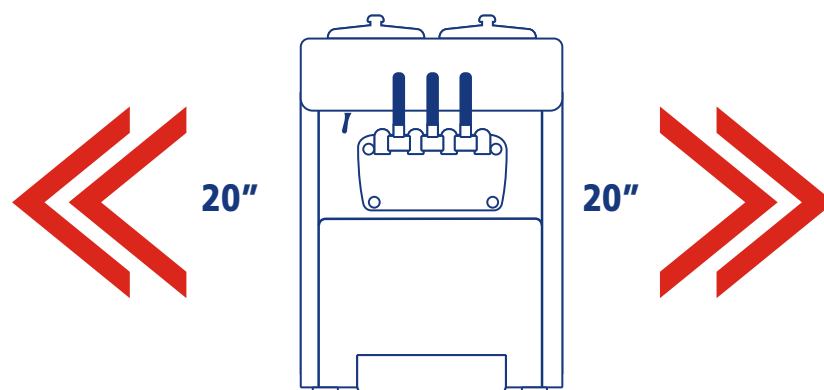
The following is important information that users of this machine should know prior to operating, in order for the machine to maintain its expected service life but more importantly for the safety of the user and their customers.

1. Keep Machine Upright – Keep the machine stable during set up and operation. The surface where the machine sits, must be flat, dry, and clean. Do not place the machine upside-down or on any of its other sides. The gradient/tilt of the machine should not exceed 30°. Always keep the machine stable during set up and operation.

## IV PRIOR TO OPERATING

### Work Condition Specifications (Cont'd)

- The machine should be set up in a place out of direct sunlight. It is recommended that the environmental temperature shall not exceed 32°C.
- When lifting the D600 or D700, be sure to slide your hands underneath the machine so that the base of the machine is resting on top of your hands. Do NOT attempt to lift and move the machine by holding the dispensing handle as this could cause damage to your machine and possible bodily injury.



- Do not place any sides of the machine closer than 20 inches (50cm) near any walls to help ensure a well ventilated area and effective operation.
- Verify whether the power supply will meet the requirements of operation before the installation.
- The sugar content of your mix must not be less than 13%.







PARAMETER	SPECIFICATIONS
Ambient Temperature	41–95°F (5–35°C)
Ambient Humidity	Less than 90% RH
Mix Temperature at Fill	Less than 95°F (35°C)
Voltage	115V ±10% or 220V ±10%
Frequency	60 Hz ±1 or 50 Hz ±1
Power Supply	Grounded 115V NEMA 5-15 outlet (US)

## V OPERATING INSTRUCTIONS

### CONTROL PANEL OVERVIEW

The control panel layout varies slightly between models. All controls are located on the front panel (D600) or inside the hinged access door on the right side of the unit (D700).

Refer to the panel diagram for your model below.

D600 D700 — Control Panel   Switch Panel					
SET	STANDBY	WASH	AUTO	UP ▲	DOWN ▼
					
Turns on the machine. Fan motor starts immediately.	Low-power mode. Maintains mix temperature in the hopper. Cooling cycles automatically.	Activates the beater/auger for cleaning cycles without engaging refrigeration.	Full production mode - beater and refrigeration run together to freeze and serve product.	Adjust the hardness/consistency level (1 = softest, 10 = firmest). Hold for 2+ seconds to enter the setting.	
<b>Display Screen</b>	Shows operating status, cylinder temperature, hardness level, and error codes.				
<b>Front Toggle Switch</b>	Turns on the machine. Fan motor starts immediately.				

8. Prepare the mix according to your supplier's instructions. Sugar content must be at least 13%. Mix temperature must be below 95°F (35°C) before filling.
9. Pour approximately half the prepared mix into the hopper.
10. Turn on the POWER switch. The fan motor will start.
11. Press WASH. Allow the beater to run until the pump inlet is free of air bubbles. This prevents air pockets that affect product quality.
12. Add the remaining mix to fill the hopper, then press WASH again to stop.
13. Press AUTO. Both the beater and the refrigeration system will start. The display will count up from 00 to 99 as the product firms up.
14. When the display reaches 99, the product is ready to serve.

**!** **IMPORTANT:** When trying a new mix brand or formula for the first time, set the hardness level to 02 as a starting point. Adjust upward gradually based on the dispensed texture.

- !** **IMPORTANT:** When the level of liquid drops below the midpoint of the beater, turn off the machine and refill before continuing.

## ADJUSTING PRODUCT HARDNESS / CONSISTENCY

When the machine is in ready/standby mode, press and hold UP or DOWN for 2 seconds. The word SET will flash on the display and the current hardness level will appear. Turn counter-clockwise (UP) to increase hardness; turn clockwise (DOWN) to decrease. The scale runs from 01 (softest) to 10 (firmest), and wraps from 10 back to 01.

## DISPENSING PRODUCT

15. Place a cup or cone directly under the dispenser spout.
16. Pull the dispenser handle down to dispense product. The product will flow as long as the handle is held down.
17. Release the handle when the desired amount has been dispensed. The handle will return to the up position.

## STANDBY MODE (OVERNIGHT / BETWEEN SERVICE PERIODS)

Press STANDBY to place the machine in low-power mode. In Standby mode:

- ★ The hopper compressor cycles to maintain mix at the set temperature.
- ★ Compressor stops when hopper temp falls below set point; restarts when temp rises 2°C above set point.
- ★ The main cylinder compressor stops when the target temperature is reached. The beater stops after 15 seconds. Both restart when cylinder temperature rises 2°C.
- ★ Hopper and cylinder temperatures are shown on the display.

**NOTE:** When the machine is left in standby overnight, a thin crust of ice may form on the surface of the mix. Remove this crust completely before restarting the machine in AUTO mode.

## VI SETTINGS

### ADVANCED PARAMETER SETTINGS

To access the parameter settings menu, place the machine in Standby mode, then press and hold UP and DOWN simultaneously for 5 seconds. The display shows P1. Use the SET button to step through parameters; use UP/DOWN to change values. Settings are saved automatically after 10 seconds of inactivity.

CODE	PARAMETER	RANGE / NOTES
P1	Periodic Restart Interval	5 minutes
P2	Compressor Start Delay	3 seconds
P7	Low-Mix Alarm Delay	0–10 minutes (0 = alarm disabled)
P8	Hopper Temperature	Up to -2.0° to -3.0°C
P9	Hopper Cyliner Temp	3 days between reminders

### SETTING THE CLOCK

Press and hold AUTO + WASH simultaneously for 5 seconds while in Standby mode. The display will show F1 followed by a value. Use UP/DOWN to change, then SET to advance.

CODE	PARAMETER
F1	Day of the week (00 = Sunday)
F2	Year
F3	Month
F4	Date
F5	Hour
F6	Minutes

### DISPLAY ALARM CODES

CODE	Meaning & Required Action
RL/RH	Temperature sensor open circuit (RL) or short circuit (RH). Machine stops. Contact service.
— —	Proximity switch misaligned or damaged (WASH/AUTO mode). Control panel locks. Re-align or replace proximity switch.
NL	Belt slipping — beater motor drive belt is loose. Adjust or replace the belt.
Cb	Dispenser handle held down for over 1 minute. Machine stops. Return handle to upright position.
CL	Mix level in hopper is low. Refill the hopper. Alarm sounds for 20 seconds.
OVER	Cleaning cycle overdue. Refrigeration locked until a full cleaning cycle is completed. Power-cycle after cleaning to reset.
ERR	Cooling fault — machine ran for over 1 hour without product forming, or refrigeration is insufficient. Inspect refrigeration system.

## VI SETTINGS

### AUTO MODE

Press AUTO to start full production mode. The AUTO and FRESH indicators will illuminate.

- The hopper compressor cycles to maintain mix temperature, same as Standby mode.
- The main compressor runs the freezing cylinder until the hardness reading reaches 99, then shuts off. After 15 seconds, the beater motor stops.
- The beater motor restarts automatically after the configured periodic restart interval (P1) After 3 seconds, the main compressor starts again.

### ALARM & PROTECTION CODES

The display will show the following codes when a fault condition is detected. The buzzer will sound until the condition is resolved.

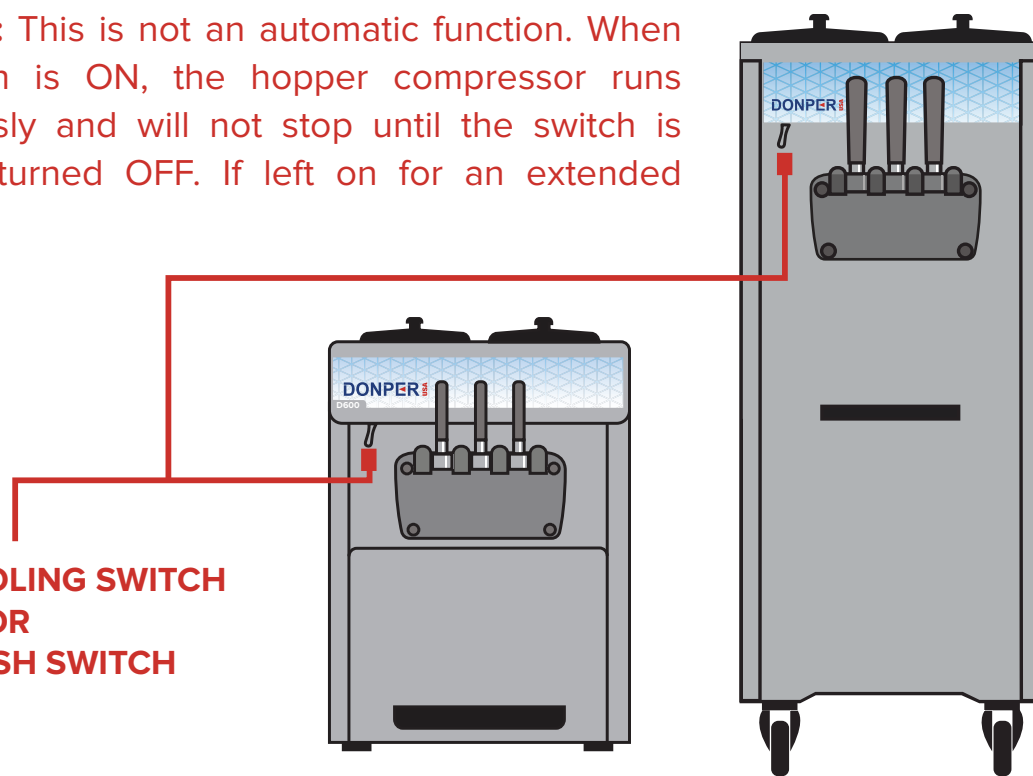
### HOPPER COOLING / KEEP FRESH SWITCH

The “HOPPER COOLING” switch is located under the control panel next to the “MAIN POWER” switch. To use this feature simply switch this from the off position to the on position.



**CAUTION:** This is not an automatic function. When the switch is ON, the hopper compressor runs continuously and will not stop until the switch is manually turned OFF. If left on for an extended

**HOPPER COOLING SWITCH  
OR  
KEEP FRESH SWITCH**



## VII NIGHT MODE

### NIGHT MODE

Night Mode allows the machine to sit idle for extended periods without requiring a full cleaning cycle. The machine can remain in Night Mode for up to two weeks while keeping the mix fresh and ready to use. This is the recommended method for storing mix in the machine between service periods.

#### TO USE NIGHT MODE

- The machine must be plugged in with the Main Power switch in the OFF position.
- The Hopper Cooling switch must be in the ON position.
- Mix must be filled to at least the bottom fill line inside both hoppers.



## VIII TROUBLESHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	REMEDY
Machine does not run	Machine not plugged in	Plug machine into wall outlet
	Short-circuit switch is open	Reset and restart
	Circuit protection triggered	Identify and resolve the fault
Machine does not run in WASH mode	Wiring connection is loose	Check and secure the wiring
	Beater motor is faulty	Repair or replace the beater motor
Machine does not run in AUTO mode	Mini circuit breaker has tripped	Identify and resolve the fault, then reset
	Function switch wire is loose	Check and secure the wiring
Compressor does not run	Control panel is faulty	Replace the control panel
	Low voltage	Resolve the low voltage issue
Compressor does not run	Contactors is faulty	Replace the contactor
	Compressor relay is faulty	Replace the control panel
	Compressor overload triggered	Identify and resolve the overload fault
	Compressor is faulty	Replace the compressor
	Compressor capacitor is faulty	Replace the capacitor
Machine does not freeze	Refrigerant leak	Locate and repair the leak, then recharge refrigerant
	Electrical valve is faulty	Replace the electrical valve
	Fan motor is not running	Repair or replace the fan motor
	Fan motor capacitor is faulty	Replace the fan motor capacitor
Machine runs continuously	Set point is too low	Increase the set point temperature
	Control panel is faulty	Replace the control panel
	Poor refrigeration	Inspect and service the refrigeration system
Relay is unstable	Low voltage	Resolve the low voltage issue
	Control panel is faulty	Replace the control panel
	Contact switch touch point is damaged	Remove or replace the contact switch
Product does not dispense	Mix ratio is incorrect	Prepare mix according to the correct ratio
	No mix in the hopper	Refill the hopper
	Limit switch faulty or wire is loose	Replace the switch or secure the wiring
	Belt is loose or slipping	Adjust or replace the belt
	Bearing sleeve or beater shaft is worn	Replace the bearing sleeve or beater shaft

## VIII TROUBLESHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	REMEDY
Product is too soft	Mix formula is incorrect	Prepare mix according to supplier instructions
	Set point is too low	Increase the set point
Leaking — draw piston	O-ring is worn or improperly seated	Reassemble or replace the O-ring
Leaking — dispenser door	Screws are loose or D-ring is worn	Tighten the screws or replace the D-ring
Leaking — drip tube	Beater gasket is not seated correctly	Reseat or replace the beater gasket
Display shows “NL”	Belt is slipping or motor has lost speed	Adjust or replace the belt; service the motor
Display shows “—”	Proximity switch is misaligned or faulty	Adjust or replace the proximity switch

## IX CLEANING & MAINTENANCE

### DAILY CLEANING — BEFORE EACH SERVICE PERIOD

18. Turn off all function switches.
19. Dispense all remaining product from the cylinder by operating the dispenser tap until empty.
20. Turn off the power switch and unplug the machine from the wall outlet.
21. Pour warm water into the hopper to loosen any remaining product. Drain through the tap into a bucket or container.
22. Prepare a food-safe sanitizing solution using warm water (120–140°F / 50–60°C) according to the sanitizer manufacturer’s directions.
23. Pour the sanitizing solution into the hopper and scrub the interior walls.
24. Plug in and power on the machine. Press WASH and allow it to run for 5 minutes.
25. Dispense all sanitizing solution through the tap. Repeat with clean water 2–3 times.
26. Press WASH to stop. Turn off and unplug the machine before disassembling for part cleaning.

**WARNING:**

Always turn off power and unplug the machine before disassembling any parts.

Sanitizing solution must not exceed 140°F (60°C) — higher temperatures damage seals and O-rings.

Do not use abrasive cleaners or scrubbing pads. Use mild dish soap and soft cloths only.



## IX CLEANING & MAINTENANCE

### CLEANING THE MACHINE EXTERIOR

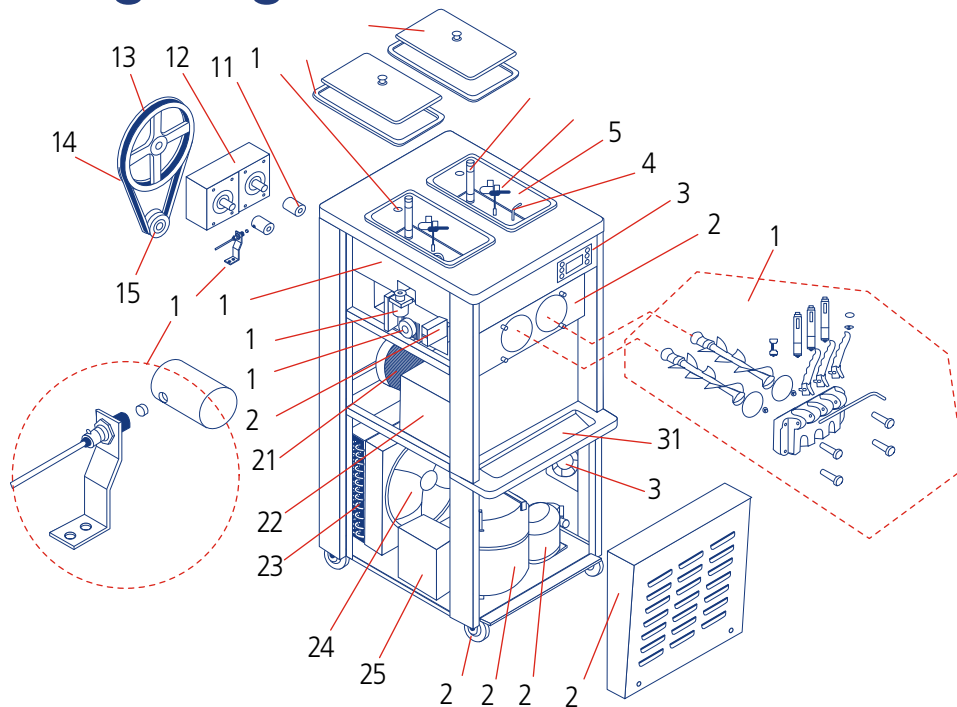
Wipe down all exterior surfaces with a clean, damp cloth after each use. Do not spray or pour water directly onto the machine. Avoid abrasive agents that could scratch the panels.

### CLEANING CONDENSER

After being used for a period of time, a thick layer of dust will begin to collect on the condenser and will begin to effect radiate heat and cause refrigeration difference. To ensure this does not happen we recommend cleaning the condenser periodically. (4-6 months)

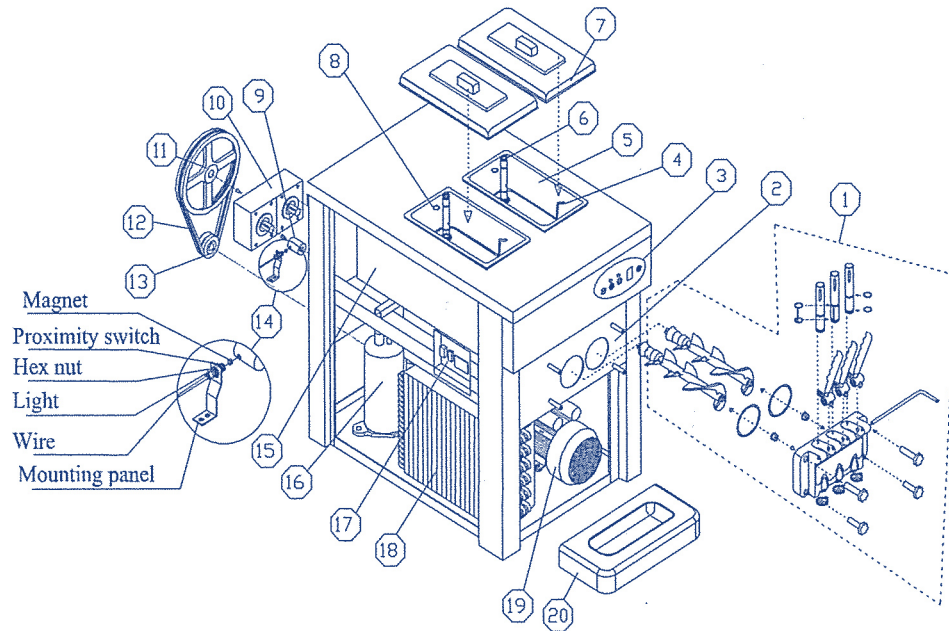
1. Disconnect from the main power supply.
2. Remove the back and side panels.
3. Remove dust with proper tools such as vacuum cleaner, high pressure air, etc.

## I Exploding Diagram | D700



No.	Part Name	No.	Part Name	No.	Part Name
1	Dispener Door Assembly (Figure 3)	12	Gear Box	23	Condenser A
2	Dispenser Door Base	13	Driven Pulley	24	Fan A
3	Operation Panel	14	Belt	25	Accessories of Compressor
4	Mix Level Probe	15	Drive Pulley	26	Wheel
5	Hopper	16	Proximity Switch	27	Compressor A
6	Hopper Agitator	17	Evaporator	28	CompressorB
7	Feed Tube	18	Hopper Agitator Motor	29	Front Panel (Lower)
8	Hopper Cover	19	Back Metal Casing	30	Fan B
9	Gasket of Hopper Cover	20	Air Switch		Condenser BB
10	Plug of Feed Tube	21	Beater motor	31	Drip Tray
11	Coupling	22	Electrical box		

# I Exploding Diagram | D600



No.	Part Name	No.	Part Name
1	Dispenser Door Assembly	12	Belt
2	Dispenser Door Base	13	Drive Pulley
3	Operation Panel	14	Proximity Switch
4	Mix Level Probe	15	Evaporator
5	Hopper	16	Compressor
6	Feed Tube	17	Electrical box
7	Hopper Cover	18	Condenser
8	Plug of Feed Tube	19	Beater Motor
9	Coupling	20	Drip Tray
10	Gear Box		
11	Driven Pulley		

## III PARAMETERS



CE ISO 9001

## D600 SOFT SERVE MACHINE

The D600 is the perfect entry level soft serve machine for any location. With low power consumption, strong production, two flavors and a twist, hopper cooling, and digital consistency controls, the D600 has all the features of much more expensive machines. The D600 is an air cooled countertop model and requires a dedicated 20 amp circuit to start producing smooth creamy soft serve at your location.

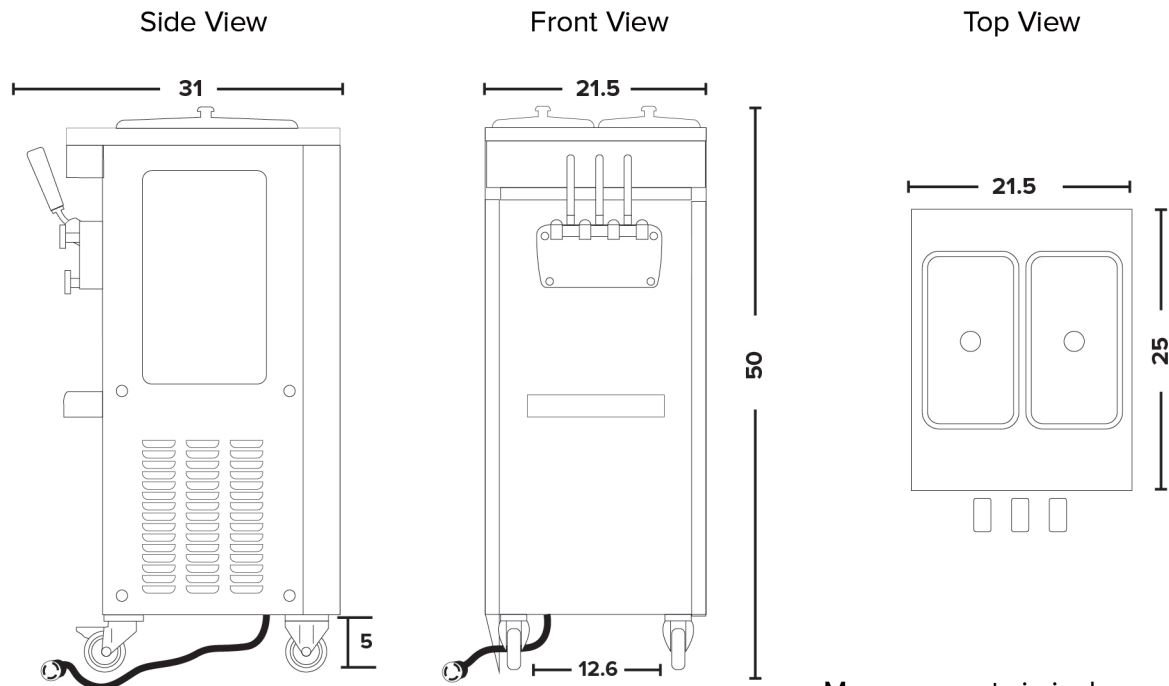
### Features

- Air cooled countertop model
- Two flavor with twist
- Serves frozen yogurt, sorbet, soft serve ice cream, etc
- 15-20 min approximate freeze time to first dispense frozen product
- Refrigerated hoppers for faster recovery times
- Product consistency is adjustable by an LCD control

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## D600 | SOFT SERVE MACHINE



Measurements in inches.

### Size and Capacity

Freezing Cylinders (each)	1.59 Qt (1.5 L)
Refrigerated Hoppers (each)	6 Qt (5.6 L)
Appx. Hourly Production	16-22 Qt (15-20 L)
Height	50 in (1270 mm)
Width	21.5 in (546.1 mm)
Depth	31 in (787.4 mm)
Weight	253.5 lbs (115 kg)

### Electrical

Voltage	115 v
Phase	Single
Rated Input Power	20A (2600 W)
Breaker Size	20A
Main Compressor	1 HP (R404A)
Drive Motor	1 HP (750 W)
Hertz	60 Hz
Plug type	NEMA L5-20P

**Distributed By:**

### III PARAMETERS



## D700 SOFT SERVE MACHINE

The D700 is the perfect entry level commercial soft serve machine for self-serve dessert concepts. The D700 is the only commercial grade high volume machine available that operates off of a standard 115 volt 20amp power supply. The D700 produces up to 22 quarts an hour of smooth creamy product while using substantially less energy than the competition.

### Features

- Self contained air cooled floor model
- Two flavor with twist
- Serves frozen yogurt, sorbet, custard, soft serve ice cream, and gelato
- Fast 10-13 typical time to first dispense frozen product
- Automatic consistency control for easy operation
- Standby mode maintains fresh product overnight and reduces daily product drain and cleans.
- Refrigerated hopper maintains fresh product overnight or during slow sales periods
- All stainless steel construction for easy cleaning and durability

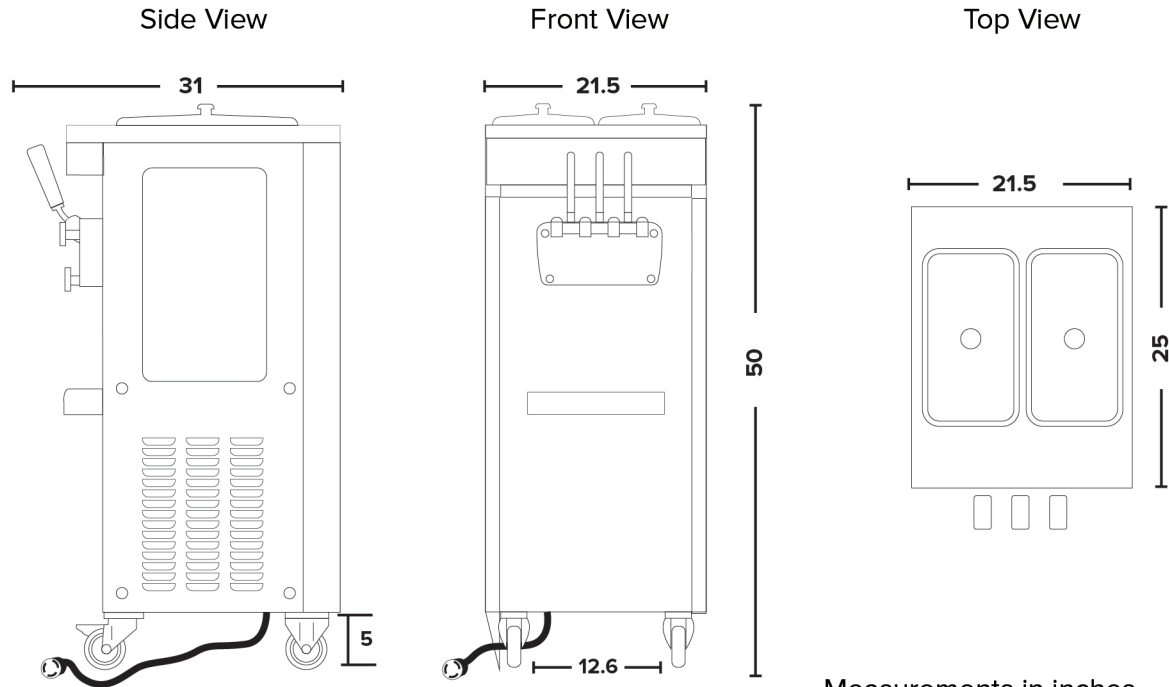


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## D700 | SOFT SERVE MACHINE



### Size and Capacity

Freezing Cylinders (each)	1.59 Qt (1.5 L)
Refrigerated Hoppers (each)	6 Qt (5.6 L)
Appx. Hourly Production	16-22 Qt (15-20 L)
Height	50 in (1270 mm)
Width	21.5 in (546.1 mm)
Depth	31 in (787.4 mm)
Weight	253.5 lbs (115 kg)

### Electrical

Voltage	115 v
Phase	Single
Rated Input Power	20A (2600 W)
Breaker Size	20A
Main Compressor	1 HP (R404A)
Drive Motor	1 HP (750 W)
Hertz	60 Hz
Plug type	NEMA L5-20P

### Distributed By:

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